IN THE UNITED STATES DISTRICT COURT
FOR THE SOUTHERN DISTRICT OF TEXAS
CORPUS CHRISTI DIVISION

TOMMY BRANTON,
DARRYL FONTENOT,
DONALD FONTENOT,
BILLY GRAHAM,
RONALD W. PENTON and
MILLARD A. SHERMAN,
Plaintiffs

C.A. NO. C-98-585

VS

CITGO PETROLEUM CORPORATION
CITGO PETROLEUM, CITGO
REFINING AND CHEMICALS, INC.,
AND AL PREBULA

PLAINTIFFS' RESPONSE TO MARCO KALTOFEN'S
MOTION TO QUASH AND MOTION FOR PROTECTIVE ORDER

TO THE HONORABLE JUDGE OF SAID COURT:

NOW COMES TOMMY BRANTON, *et al.,* and files this their response to Movant's motion to quash and for protective order, and would respectfully show the Court as follows:

1. Contrary to Movant's allegations, Movant's data and opinions form the very core of the opinions expressed by William Sawyer, Ph.D. As demonstrated in the chart attached hereto as "Exhibit A", Dr. Sawyer relied on Mr. Kaltofen's opinions and data for such basic facts as the amount of HF released during the event, on and offsite analytical testing, damage to vegetation, and the significance of the "etching" of car windshields both on and offsite.

In sum, Dr. Sawyer's deposition is replete with references to the data and opinions of Movant, and the data and opinions expressed by Movant go to the very essence of Dr. Sawyer's opinions and are thus essential.

2. Plaintiffs have no issue with the rescheduling of the date and time of Mr.

Kaltofen's deposition, but would oppose the granting of a protective order which would prohibit Defendants from ever taking Mr. Kaltofen's deposition relative to the data and opinions which he discussed with Dr. Sawyer and which formed the basis of the opinions of Dr. Sawyer's conclusions in the *Branton* case.

Plaintiffs have offered to compensate Mr. Kaltofen for his time spent in this additional effort, and the attached excerpts from Dr. Sawyer's deposition attached hereto as the appendix to "Exhibit A" clearly demonstrate a substantial need for Movant's data and opinions.

WHEREFORE, PREMISES CONSIDERED, Plaintiffs request that this Court DENY Movant's request for a protective order.

Respectfully submitted,

THE CORTIGENE LAW FIRM

BY: _____

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CERTIFICATE OF SERVICE

I HEREBY CERTIFY that a copy of the above and foregoing has been forwarded to all known counsel of record by fax/certifed mail on this 20th day of October, 1999.

_____
SETH CORTIGENE

Summary of Dr. Sawyer's Deposition Testimony
In Which Movant's Data or Opinions
Formed the Basis of
Dr. Sawyer's Opinions or Conclusions

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EXHIBIT A

IN THE UNITED STATES DISTRICT COURT
SOUTHERN DISTRICT OF TEXAS
CORPUS CHRISTI DIVISION
CIVIL ACTION NO. C-98-585

TOMMY J. BRANTON,
et al.,

Plaintiff,

vs.

DEPOSITION OF:
WILLIAM R. SAWYER, Ph.D.

CITGO PETROLEUM
CORPORATION, et al.,

Defendants.

/

TRANSCRIPT of the stenographic notes of the proceedings in the above-entitled matter, as taken by and before JUDY A. BLACK, a Certified Shorthand Reporter and Notary Public of the State of New Jersey, held at the BEST WESTERN SYRACUSE AIRPORT INN, Syracuse, New York, on Wednesday, July 21, 1999, commencing at 9:25 in the morning.

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Sawyer - direct

that you had been a party in. Is that correct?

A. Yes. It was a fax requesting more information, and I, of course, immediately called your firm and volunteered my services.

Q. And they told you, the paralegal who did it, that it was sent to you inadvertently. Is that correct?

A. Right, and to destroy the fax, which I did not, because I think I have to keep everything in a federal case.

Q. That's fine.

In your report, you state that a hundred pounds of hydrogen fluoride was released. Where did you get that information?

On page 19, it says, "The enormous quantity of hydrogen fluoride released from the spill, in excess of a hundred pounds." Can you tell me where you got the information that a hundred pounds of hydrogen fluoride was released from the spill?

A. Actually, that's a gross underestimate. The information I received was through a licensed engineer, Marco Kaltofen, M-A-R-C-O, K-A-L-T-O-F-E-N.

Sawyer - direct

Q. And when did you receive that information from Mr. Kaltofen?

A. Sometime over the past two years or so, sometime since June, middle of June 1997. Mr. Kaltofen, as you know, was allowed on site at CITGO and toured the facility shortly after the explosion and as a certified engineer has made some assessments with respect to the release, which have included on-site and off-site analytical testing in addition to a review of the various data.

Q. Do you have the information that you received from Mr. Kaltofen?

A. I've not received any printed information from Mr. Kaltofen.

Q. So how did you receive this estimate of a hundred pounds from him?

A. In both direct personal meetings and via teleconference.

Q. And when did you have direct personal meetings with Mr. Kaltofen?

A. Many times over the past several years, as recent as yesterday.

Q. Can you give me a ballpark as to how

Sawyer - direct

many times?

A. Since the May 12, 1997 explosion?

Q. Yes.

A. Specifically dealing with this matter or other environmental issues?

Q. I'm asking about the direct personal meetings you've had where you discussed the estimate of release relating to this explosion.

A. Via telephone conference or direct meeting?

Q. The direct meetings.

A. I believe we met in person discussing this matter probably twice, maybe more. And we've had numerous phone calls.

Q. What on-site analytical testing has he told you about?

A. Well, Mr. Kaltofen has tested pyrolysis products, that is, burn waste for both particulate analyses, by specialized microscopic techniques, heavy metal analyses, chlorinated dibenzo-p-dioxin and dibenzofuran analyses by high-resolution GC mass spectrometry, hydrogen fluoride analyses, pH analyses, and other specialized tests.

Q. Do you know what those other

Sawyer - direct

specialized tests are?

A. Yes, polynuclear aromatic hydrocarbons via method 8270 GC mass spectrometry and phthalates.

Q. Now, are all these analyses on site? Because I had asked my question about on-site analyses. I was about to ask them about off site, but let me make sure that these -- what you've just described to me are just on site.

A. It is my recollection that all of those tests were performed on site, although I can't offhand recall the data for phthalate analyses on site. I believe they were performed.

Q. Did you ask Mr. Kaltofen for copies of the test results?

A. Yes. In fact, I met with him yesterday, and he is performing some additional tests on nickel, I believe, at this stage and will soon be compiling all of his data.

Q. Okay. Is there any off-site analytical testing that Mr. Kaltofen has talked to you about that he's conducted?

A. Oh, yes.

Q. Can you tell me what that is?

Sawyer - direct

A. Well, for example, he measured hydrogen fluoride on off-site parked cars at levels as high as 8,000 part per million.

Q. At levels of what?

A. 8,000 part per million in areas that were outside of the CITGO property fence line.

He's performed the same specialized microscopic analyses on fly ash and pyrolysis products, which he then performed analyses to determine whether or not the particulate matter matched that of the burn debris at the site of the explosion and fire, and also measured specific metals such as copper and aluminum and hydrogen fluoride and other heavy metals in the particulate fly ash.

He also measured off site using high-resolution GC mass spectrometry, dioxins, dibenzofurans, polynuclear aromatic hydrocarbons, phthalates and other analytes detected by USEPA method 8270.

MS. FALVEY: Off the record a second.

(A discussion takes place off the record.)

Q. We can go back on the record.

Let me make sure I've gotten it all.

He measured hydrogen fluoride on cars outside the CITGO property fence line?

A. Both on hoods and glass surfaces.

Q. Okay.

A. Of cars.

Q. Do you know when he did this?

A. Yes.

Q. When?

A. Approximately June 5th to June 10th, 1997.

Q. And then you said he conducted microscopic analyses on particulate matter including fly ash. Were there any other microscopic analyses that --

A. Let me qualify that. When I say microscopic analysis, I'm being crude in my terminology. I believe he actually used x-ray defraction or another high-resolution technique.

Q. Do you know what particulate matter he was testing?

A. Yes.

Q. Can you tell me what that was?

A. Fine material which had settled via airborne deposition.

Sawyer - direct

Q. And do you know where he obtained this material that had settled from the air?

A. I really cannot quote the exact address for each sample; however, I can tell you that he did collect specimens on at least three sides of the CITGO facility and also performed background measurements further into the community in different directions.

Q. Do you know where he obtained the material that he was testing?

A. I don't understand your question.

Q. Well, did he take it from vacuum cleaner bags, did he take it from rooftops? Do you know where he obtained the material?

A. As I stated, airborne deposition off windshields, car hoods and other non-mobile surfaces, including soil samples. He may also have -- and I'm not clear on this. I believe he told me that he collected specimens of specific plants or examined specific plants that he found that did show evidence of hydrogen fluoride damage; however, I'm not real clear on his findings and did not discuss that with him. This is something I remember from early discussions in

Sawyer - direct

A. I don't know.

Q. Well, you didn't know it on June 16th, did you?

A. No.

Q. And June 16th is the date on your report. Is that correct?

A. Yes.

Q. What information did you have about the quantity of the release at CITGO on June 16 when you wrote your report?

A. Well, in discussions with Marco Kaltofen who had firsthand knowledge and inspection of the site, revealed to me based upon the size of the pipes and various equipment which contained hydrofluoric acid, that a sizable release had occurred, and he gave me some approximate ranges, all of which were in great excess of 100 pounds, but he has not produced anything that I'm aware of in writing or provided me any written materials with respect to the exact quantities.

Q. Did you have any other information about the quantity of hydrogen fluoride released other than your conversations with Marco

Sawyer - direct

molecular weight of 20.01.

Q. Would you agree with me that hydrogen fluoride readily dissolves in water?

A. Yes.

Q. And would you agree with me that hydrogen fluoride is not flammable?

A. It is not readily flammable.

Q. Are you relying on information that you received from NIOSH by fax just now to answer that question?

A. No.

Q. Okay. What are you referring to to answer that question?

A. My familiarity with the chemistry of compounds.

Q. Why did you say it's not readily flammable?

A. Under extreme heat conditions, reactions that occur, typically the fluorine can serve as a catalyst in chemical reactions and can often be consumed into the reaction or simply serve as the catalyst, but, nonetheless, it is not completely inert.

Q. Can you cite any literature that

Sawyer - direct

discusses what happens to hydrogen fluoride in an extreme heat reaction?

A. No, I rely on Marco Kaltofen, the chemical engineer, to provide any information with respect to those issues.

Q. Is it your opinion that the five plaintiffs in this action were exposed to fluorine gas?

A. They were exposed to a combination of hydrogen fluoride and fluorine gas.

Q. Why is it that you believe that they were exposed to fluorine gas?

A. Because of the very high conversion of hydrogen fluoride to fluorine under conditions of high water, high humidity, and high temperature.

Q. And have you relied upon any literature to demonstrate that fluorine gas would be created under these high water, high humidity conditions?

A. I've relied primarily on discussions with Marco Kaltofen, but I also do have in my file a notation of conversion of hydrogen fluoride to fluorine in peer-reviewed studies.

Q. Can you tell me what study you're referring to, what studies you're referring to?

Sawyer - direct

Q. Okay. The report which we have marked as an exhibit to your deposition, does it refer in any way to the work that's being done by Kaltofen?

A. Does my report refer to Kaltofen's work?

Q. Right.

A. I'll take a look. I was asleep at the wheel when I wrote this, so I don't remember. I really had to work hard to get this out in time.

All right. You want to know if I rely on Marco Kaltofen's testing or assessment in the production of this report. Is that correct?

Q. I want to know if the report states that you relied upon Marco Kaltofen, and I'll ask you the next question next.

A. No, it doesn't state that, no.

Q. Okay. Did you rely on information you had received from Marco Kaltofen in coming up with what you say the exposures might have been in this report?

A. Yes.

Q. Yes?

A. Yes, I did.

Q. Okay. Before the break, I asked you if

Other documents indicate they were worn throughout the event. There seems to be some conflicts among the reports, and it appears that the RTFC reports indicate that some of the equipment was on stand-by, where a later document with a summary report written by a CITGO captain or RTFC captain refers that all of the men had full turnout gear and SCBA respirators on throughout the event. But to really specifically address your question about the higher level exposure, the folder that we just marked as Exhibit 7, that does reveal systemic poisoning in a very short order of time, which is consistent with IDLH levels of exposure.

(File Folder entitled, "CITGO Refinery Exposure RTFC Injury Illness," is received and marked Sawyer-7 for identification.)

Q. Is there any other information upon which you relied to support your opinion that the exposures after the CITGO May 12th event were greater than those involved in the Texas City event?

A. Not at this time, although I am awaiting analyses from Marco Kaltofen with respect to the off-site hydrogen fluoride levels which may

Sawyer - direct

rely for that statement?

A. On several pieces of data: the physical chemical properties of the gas, studies reported by the -- as conveyed to me through Marco Kaltofen in a non-peer reviewed study of a test site sponsored by Amoco in which approximately 5,000 pounds of hydrogen fluoride were released into a southwestern United States desert and tracked. The -- of course, the CITGO instructive safety training video which indicates that the hydrogen fluoride gas is heavier than air and initially go up with heat and come down to grade level. This is a very true statement that was -- is on the videotape, characteristic of this material. And also the review of the photographs and video.

Q. I know we have the videos here that you've reviewed. Do we have the photographs that you've reviewed?

A. Yes.

Q. Where are they? Why don't we mark those as Sawyer Exhibit 8?

And from whom did you receive these photographs? Was it Mr. Terry again?

and blew out of the northwest, west or southwest, there was significant exposure, and at this stage the only evidence I have of that exposure is the medical records indicating toxicological effects were occurring at a level exceeding the threshold limit value of roughly 3 part per million. However, I hope to supplement that data with the work being performed by Marco Kaltofen.

Q. Let me ask you one thing going back to -- I had asked you about supportive evidence on the comparison between the CITGO Corpus Christi event and the Texas City event, and you referenced Exhibit 7, which was the evidence, to use your term, of the systemic poisoning of the RTFC fire fighters. Are those the fire fighters whose blood was tested?

A. No.

Q. Okay. Do you use the words "dose" and "exposure" to mean two different things?

A. Yes.

Q. And what does the word "exposure" mean to you?

A. It means that I could dose a person or an animal with metallic mercury, a gram of it, and

Sawyer - direct

administration building?

A. No. I am hoping to obtain that data in the near future.

Q. Now, do you have any evidence of etching during this first 15 minutes of the explosion?

A. Yes.

Q. What evidence of etching do you have during the first 15 minutes of the explosion?

A. The listing of damaged equipment by the RTFC.

Q. Now --

A. And applying the basic scientific principle as conveyed to me by the chemical engineer, Marco Kaltofen, that the hydrogen fluoride being under high pressure would have resulted in the -- in an initial escape of the material early on in the explosion, at which time the exposure would have been at its peak, peak level.

Q. Do you know what time the RTFC emergency equipment arrived on the scene?

A. Yes.

Q. What time did it arrive on the scene?

Sawyer - direct

fighting effort?

A. The engineering principle that high-pressure gas upon breakage immediately releases, and then following that immediate bolus release, a continuing stream flows from the storage tanks and other safety valves, pop-off valves and other equipment. It's really an engineering issue, but I can only rely on what I've been told.

Q. And that is what you've been told by Mr. Kaltofen. Is that correct?

A. I did discuss this with him back in 1997. I believe that's what he told me. Specifically I think he told me that he saw some large -- either in the plans or his own observations, some large carrier pipes, and I believe he made a calculation, if I'm not mistaken, of so many gallons within those pipes that would have immediately released, and then a sustained release from other devices followed that.

Q. Do you personally, as opposed to Mr. Kaltofen, have any information about the size of the rupture which caused the accident?

Sawyer - direct

A. No.

Q. And do you have any information about how the size of the rupture that caused the event might have changed over the course of the event?

A. No.

Q. Do you know what pipe it is that ruptured?

A. No. I was told, but I don't remember the detail on that.

Q. And do you know how much hydrofluoric acid was contained in the streams where the rupture occurred?

A. In the pipes and assemblies that were carrying it at the site of the rupture?

Q. Right.

A. I was given that number. I believe Marco gave me that number in 1997. I don't recall it.

Q. Okay. Do you have any documents yourself that would show you what that number is?

A. No. I do have documents that show schematics of that pipe work, and it's really beyond my expertise to address that.

Q. Okay. So you are relying on

Sawyer - direct

Mr. Kaltofen for your -- for the basis of your opinion that the immediate release caused etching to the equipment as it arrived?

A. No, I'm relying on Mr. Kaltofen's experience and expert opinion as a chemical engineer that there was a sizeable release at the time of the explosion and fire, and that release continued throughout a considerable length of time.

Q. Do you have any information about the amount of water that was applied to the fire?

A. I did read in some of the CITGO or RTFC records that monitors were applied, foam was applied, and there are even some statistics in there as to how much they had to replenish with respect to the foam. I don't recall those numbers precisely.

Q. And have you been provided with the information about the amount of fluorides in the wastewater treatment flows after the event?

A. No. However, I wouldn't expect much. The study by Amoco sponsored by a research laboratory in the southwest desert revealed that, I think, 5,000 pounds of hydrogen fluoride was

Sawyer - direct

suddenly released into the air with large surface areas of drain pans underneath it to catch it. The drain pans remained dry because it all volatilized into the air. I don't believe from a physical chemistry standpoint that a large portion of this material would have gone down the storm sewer. I think the majority of it went into the air, especially in light of the outdoor temperature being above the boiling point of the material itself and the heat of the fire.

Q. Do you have a copy of the study by Amoco with you today?

A. No. I said I relied on Marco Kaltofen's knowledge of that study. In fact, he made some direct phone calls to personnel who sponsored that study, and I have, as I already stated, a non-peer reviewed summary of that test. I have that with me, but I deem it unreliable, as it is not peer reviewed.

Q. Have you reviewed any other literature about the use of water to contain exposures to hydrogen fluoride after an accidental release at a refinery?

A. Well, I'm familiar with the principle.

Sawyer - direct

Q. Is it your opinion that CITGO should have had better equipment for Mr. Sasara?

A. Absolutely. It's outrageous that one would station a tank of extremely toxic hydrogen fluoride in such close proximity to a large city and populated area without having calibrated active monitors and an evacuation plan linked with those monitors and the fire department and police department with appropriate warnings immediately conveyed to the first responders.

Q. Do you know whether there was any etching at or near this location?

A. What location?

Q. The West Saxton address.

A. Yes, there was. There was significant etching at that location.

Q. And how do you know that?

A. Yesterday, I met with Marco Kaltofen, and he went through his data with me, and it was very enlightening data with respect to the concentrations, the quantity, location and the etchings off site.

Q. And can you tell me what he told you about off-site etching yesterday?

Sawyer - direct

been etched after the CITGO event?

A. No.

Q. And on what methods did he determine that the glass was etched? Did he explain that to you?

A. Vaguely. He used a -- may have been x-ray defraction microscopy method. I forget.

Q. And what glass was it that he tested for etching?

A. I'm not certain. Multiple samples.

Q. And do you know when he tested it for etching?

A. I believe upon his first visit to the site in June of '97.

Q. Do you know whether he tested any of the RTFC equipment that was replaced?

A. I don't know.

Q. And did he tell you anything about the frequency of etching south of the facility?

A. No.

Q. Now, in your report, I believe you indicate that glass would be etched in six to seven hours at levels in the 5 to 100 part per million range.

Sawyer - direct

A. Yes.

Q. On what do you base that opinion?

A. Well, primarily the reference that was in the CITGO medical literature file and the paper published by Wing which I referred to earlier, page 156, the top of the page, right column.

Q. Anything else?

A. Discussions with Marco Kaltofen.

Q. Are you aware of any literature that suggests that glass can be etched at levels much lower than 5 to 100 parts per million?

A. I am familiar with that occurring over a long duration of exposure or with actual aqueous immersions, that is, where pieces are immersed into a liquid as opposed to just being exposed to the air.

Q. Now, is it your opinion that the etching to the RTFC vehicles was caused by exposure to the air?

A. A mixture. There were some pieces of equipment based on my review of the RTFC reports that were in close proximity to the fire, other pieces that were set back a long distance.

Q. And the equipment that was in close

A. No.

Q. You obtained it from Mr. Terry?

A. Yes.

Q. Okay. Is there any difference in glass etching depending on the amount of concentration of the exposure of the glass to hydrogen fluoride?

A. I don't know.

Q. Does fluorine etch glass?

A. I'm not sure.

Q. Has Mr. Kaltofen told you that he's been able through his testing to determine the amount of hydrogen fluoride on the glass?

A. I believe so.

Q. Did he describe for you how he was able to do so?

A. No.

Q. Now, I think earlier we talked about the fact that the water -- that a test result of the pH of water was at two. Is that correct?

A. I think at two locations it was at two and three.

Q. What does that tell you?

A. Well, it tells me that the concentration of hydrogen fluoride, that is, the

Sawyer - direct

have on vegetation from -- strike that.

Are these the only photos you have of vegetation after the event?

A. Yes. Although I think it's possible that Marco Kaltofen has photos and samples, but I'm not sure.

Q. But you don't have them?

A. No.

Q. And, again, you received this information that we're marking as Sawyer Exhibit 12, these photographs, from Mr. Terry?

A. Yes.

Q. Are you aware of any studies that have been done of the vegetation in the area surrounding the refinery after the event?

A. Only last night I learned from Attorney Cortigene that a scientist or botanist had been consulted by CITGO, I believe, who did collect some specimens and found no damage, and I was rather surprised to hear that because I believe that I recall differing results from Marco Kaltofen.

Q. But you don't have a copy of his written report. Is that correct?